

**REMARKS**

Applicants appreciate the Examiner's thorough review of the present application, and respectfully request reconsideration in light of the preceding amendments and the following remarks.

Claims 2, 4, 7, and 9-31 are pending in the application. Claims 1, 3, 5, 6, and 8 have been canceled. Claims 4 and 9 have been rewritten in independent form including all limitations of the respective base claims and intervening claims. Claim 9 has also been amended to preserve consistency in claim language. Claims 2, 7, 10-11, 16-20 and 24 have been amended to better define the claimed invention. Claims 25-31 have been added to provide Applicants with the scope of protection to which they are believed entitled. No new matter has been introduced through the foregoing amendments.

**The 35 U.S.C. 103(a) rejection of claims 1, 3, 4, 6, 11-15, 17-20 and 22-24 as being obvious over *McComas* (U.S. Patent No. 4, 236,059).**

The rejection of claims 1, 3, and 6 is moot as these claims have been cancelled.

The rejection of claim 4 is traversed, because *McComas* fails to disclose, teach or suggest the claimed **compressed gas**. The Examiner held that claim 4 is obvious over *McComas* because the used of a compressed gas to provide cooling is well known in the art. Applicants respectfully disagree.

Any rejection based on assertions that a fact is well-known or is common knowledge in the art without documentary evidence to support the examiner's conclusion should be judiciously applied. Furthermore, as noted by the court in *In re Ahlert*, any facts so noticed should be of notorious character and serve only to "fill in the gaps" in an insubstantial manner which might exist in the evidentiary showing made by the examiner to support a particular ground for rejection. It is

never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based. *See In re Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697; *In re Ahlert*, 424 F.2d at 1092, 165 USPQ 421 (emphasis added). *See* also *MPEP* (Original Eighth Edition, August 2001, Latest Revision May 2004) section 2144.03.

In this particular case, the Examiner relied solely on the alleged well-known feature as the principle evidence upon which the rejection of claim 4 was based. The obviousness rejection of claim 4 is therefore improper and should be withdrawn or at least rephrased.

In addition, Applicants respectfully request that the Examiner produce convincing evidence showing that it was known in the art prior to the present invention to used compressed gas to provide cooling in the presently claimed manner.

Claim 2 depends from claim 4 and is considered patentable over *McComas* at least for the reason advanced with respect to claim 4. Claim 2 is also patentable on its own merit since *McComas* fails to disclose, teach or suggest the claimed **rotary** atomizing element.

The rejection of claim 11-15, 17-20, and 22-24 is believed overcome in view of the above amendments. In particular, *McComas* clearly fails to disclose, teach or suggest the claimed **rotary** atomizer of independent claims 11 and 19.

**The 35 U.S.C. 103(a) rejection of claims 1-4, 6-18 as being obvious over *Weistein* (U.S. Patent No. 4,928,883) in view of *McComas*.**

The Examiner's rejection is not understood. It is unclear how the Examiner proposed to combine *Weistein* and *McComas*, i.e., replace the shaping air supply of *Weistein* with the water cooling system of *McComas*, or add the *McComas* water cooling system to the rotary spray coating device of *Weistein*?

If the former, then the obviousness rejection is traversed because the *Weistein* intended

purpose of shaping the spray jet would be defeated. *See* column 2, lines 19-32 of *Weistein*.

If the latter, then it would not have been obvious to use the *Weistein* shaping air to provide cooling, because the cooling function would be primarily performed by the added water cooling system as taught by *McComas*. In addition, a person of ordinary skill in the art would not have been motivated to add the *McComas* water cooling system to the rotary spray coating device of *Weistein*, because the *Weistein* rotary bell would have to rotate within a water jacket, causing significant loss of velocity and energy.

The obviousness rejections are further traversed/overcome for the following reasons:

The rejection of claims 1, 3, 6, and 8 is moot as these claims have been cancelled.

The rejection of claim 4 is traversed, because the references, especially *Weistein*, fails to disclose, teach or suggest the step of cooling at least one component of the spray system by **blowing a compressed gas onto a surface region** of the component to be cooled in order that the cooling of said component shall **reduce or prevent the adhesion and/or the drying rate and the layering of the coating liquid on a surface of said component**. As discussed above, if shaping air supply of *Weistein* is to be replaced with the water cooling system of *McComas*, then there would be no compressed gas blowing in the combined method, whereas if the *McComas* water cooling system is to be added to the rotary spray coating device of *Weistein*, then the cooling function would be performed by the water cooling system, rather than by the compressed gas blow as presently claimed.

Claim 4 is thus patentable over *Weistein* in view of *McComas*. Claim 2 depends from claim 4 and should be considered patentable for at least the same reason.

Claim 9 is patentable over *Weistein* in view of *McComas* for at least the same reason advanced with respect to claim 4. In addition, *Weistein* does not appear to fairly teach or suggest

the claimed feature of a compressed-gas discharge for blowing the cooled compressed gas onto a surface region of the component to be cooled, **where the coating liquid does not stream over said surface region**. In *Weistein*, the shaping air is directed to the atomizing edge over which the coating liquid necessarily streams. *See* column 5, lines 50-55 of *Weistein*.

Claim 7 and 10 depends from claim 9 and should be considered patentable for at least the same reasons.

As to claim 10, it would not have been obvious to provide *Weistein* with a cooling element for cooling the compressed gas in the presently claimed manner. Indeed, *Weistein* does not teach or suggest to use the shaping air to cool the atomizer. Therefore, a person of ordinary skill in the art would not have been motivated to provide a cooling element to cool the shaping air. Such a person of ordinary skill in the art, at best, would have provide a cooling element to cool other medium, i.e., water in the *McComas* water cooling system to be imported into the device of *Weistein*.

Claim 11 is patentable over *Weistein* in view of *McComas*, because the references are not properly combinable as discussed above.

Claims 12-18 and 25-28 depend from claim 11 and should be considered patentable for at least the same reason.

As to claim 16, the applied references also fail to disclose, teach or suggest that said atomizer is a rotary, bell-shaped atomizing element having a front end portion flared towards the object and a **rear end portion extending rearwardly from a region of said front end portion, which region has a smallest diameter of said front end portion**, and said cooling medium is deposited on said rear end portion of the atomizing element.

As to claim 17, note the discussion of claim 10.

As to claim 25, the references, especially *Weistein*, fail to disclose, teach or suggest that said

cooling comprises blowing a compressed gas onto the external surface, **without affecting the shape of a spray jet** of said coating liquid being sprayed from the atomizing edge onto the object. The shaping air in *Weistein* necessarily changes the shape of the spray jet.

As to claim 26, the applied references fail to disclose, teach or suggest both the claimed **compressed gas and shaping air**.

As to claims 27-28, note the discussion of claim 10.

Claim 19 is patentable over *Weistein* in view of *McComas*, because the references are not properly combinable as discussed above.

Claims 19-24 and 29-31 depend from claim 19 and should be considered patentable for at least the same reason.

As to claim 21, the Examiner's additional reliance on *Wildfeuer* is inappropriate because *Wildfeuer* does not supply the desirability of using the shaping air of *Weistein* to sufficiently cool the atomizer. Therefore the cooling element of *Wildfeuer* is applicable at best to the water cooling system imported from *McComas*. The combined device, if proper, would still fail to teach or suggest the claimed cooling element for cooling the compressed gas to be blown onto the external surface of the atomizer.

As to claim 29, note the discussion of claim 16.

As to claim 30, note the discussion of claim 25.

As to claim 31, note the discussion of claim 26.

Each of the Examiner's rejections has been traversed/overcome. Accordingly, Applicants respectfully submit that all claims are now in condition for allowance. Early and favorable

indication of allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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